

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1-14. (canceled)

15. (currently amended) A sample holder for installation in a reaction chamber (22) intended for detecting sample constituents of a sample fluid, comprising:

a holder plate (11) made of an electrically insulating material;

electrically conductive receiving regions (17) located on one side of the holder plate, the receiving regions configured for holding sample constituents of a sample fluid;

electrical contact locations (19) assigned to corresponding ones of the receiving regions and located on the other side of the holder plate, the electrical contact locations facing away from the corresponding receiving regions; [[and]]

apertures provided through the plate, via which apertures the contact locations are electrically connected with the corresponding receiving regions; and

inserts (15a, 15b, 15c) located in the apertures,

the receiving regions mounted on the inserts on the one side of the holder plate, and the inserts electrically connecting the receiving regions and the contact locations, wherein,

the inserts (15c) comprise plural convexly curved surface areas, and

a radius of curvature of each of the convexly curved surface areas is between 20 and 500 μm .

16. (canceled).

17. (currently amended) The sample holder of claim [[16]] 15, wherein,

the inserts pass through the apertures, and

the contact locations are mounted on the inserts on the other side of the holder plate.

18. (currently amended) The sample holder of claim [[16]] 15, wherein,

the inserts, on the one side of the holder plate, have an exterior surface convexly curved.

19. (canceled)

20. (currently amended) The holder of claim 18, wherein,

~~the inserts (15c) comprise~~ the plural convexly curved surface areas ~~extending of the inserts (15c) extend~~ as facets over an entire receiving region.

21-22. (canceled)

23. (previously presented) The sample holder of claim 15, further comprising:

a reference electrode (20) attached on the one side of the holder plate.

24. (previously presented) The sample holder of claim 23, wherein the reference electrode annularly surrounds each of the receiving regions.

25. (previously presented) A reactor for a sample fluid having sample constituents and exchangeably holding a sample holder (23) with electrically conductive receiving regions (17) located on one side of the sample holder, the receiving regions configured for holding sample constituents of a sample fluid, and electrical contact locations (19) assigned to each of the receiving regions and located on the other side of the sample holder, the reactor comprising:

a reaction chamber (22);

an interior sample holder compartment (24) to support the sample holder within the reaction chamber; and

terminal contacts (30) located on one surface of the sample holder compartment, the terminal contacts being positioned for electrical contact with the electrical contact locations of the sample holder.

26. (previously presented) The reactor of claim 25, further comprising:

a reference electrode in the form of a self-supporting electrode grid (33) positioned for parallel alignment with the supported sample holder on the one side of the sample holder.

27. (previously presented) The reactor of claim 26, wherein,

the reaction chamber comprising a wall part (32) aligned parallel to the one side of the supported sample holder, the wall part bearing mounting counter electrodes (31), and

the counter electrodes being positioned to be in alignment with the receiving regions of the supported sample holder.

28. (previously presented) A method of producing a sample holder for installation in a reaction chamber (22)

intended for detecting sample constituents of a sample fluid,
comprising the steps of:

forming apertures (12) in a holder plate;

within the apertures, forming inserts (15a, 15b, 15c)
with electrically conductive receiving regions (17) for holding
the sample constituents, the receiving regions being located on a
first ends of the inserts and on one side of the holder plate;
and

providing electrical contact locations (19) on second
ends of the inserts and on the other side of the holder plate,
the receiving regions being electrically connected to the
electrical contact locations via the inserts.

29. (previously presented) The method of claim 28,
wherein,
the holder plate comprises silicon, and
the apertures are formed by etching of the holder
plate.

30. (previously presented) The method of claim 28,
wherein,
the inserts are formed in the apertures by injection
molding.

31. (previously presented) The method of claim 30, wherein,

the inserts comprise injected polycarbonate containing graphite, and

the apertures serve as a part of an injection mold in injection molding the inserts.

32. (previously presented) The method of claim 28, further comprising the step of immobilizing oligonucleotides on the electrically conductive receiving regions.

33. (previously presented) The sample holder of claim 15, further comprising:

oligonucleotide immobilized on the electrically conductive receiving regions.

34. (currently amended) The sample holder of claim [[16]] 15, wherein,

the inserts have a narrowed mid-region at approximately a horizontal centerline of the holder plate.